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PSYCHOLOGICAL THEORY.

BY H. N. DAY.

The very timely work of Professor Bowne, "Introduction to Psychological Theory,"¹ invites a careful survey of the conditions in the present stage of scientific progress favorable to a reconstruction of mental science. This work professes to be but an introduction. It is not a theory itself; it is not the formal presentation of any theory of mind, or of any theory of the science of mind. It has for its aim simply "an understanding of principles." The design of the present article is not at all a critical review of the book. Neither its merits, except simply to recognize the fact that they are great, nor its defects, if any, or whatever they may be, will command our attention. Our sole interest is in the subject-matter itself of the book—psychological theory. We shall use the book mainly as a leader and a help. Accepting it as an exposition more or less accurate and full of the prevalent views in this field of knowledge, we avail ourselves of its suggestions in an endeavor toward attaining a still more advanced theory of psychological science.

We understand by the phrase *psychological theory* simply and exactly a view, a survey of the science or doctrine of the human mind. It imports that survey which one would propose to himself to take, in order to the readiest and most accurate construction, in thought or in formal exposition, of a science of mind. It denotes a theory, not as determined from the point of view from which the matter of the science is studied, as, for example, from psychology rather than from physiology, but from the subject-matter itself—a theory of psychology. It denotes accordingly not a theory of the mind immediately and directly, but a theory of a science or doctrine of the mind. If it be asked what are the materials out of which such a theory should be formed, the answer is at hand. It would be constructed out of the accumulated observations and ratiocinations of the past, gathered, arranged, and used by the most advanced skill in the investigation and ascer-

¹ "Introduction to Psychological Theory." By Borden P. Bowne, Professor of Philosophy in Boston University. New York: Harper & Brothers, 1887.

tainment of knowledge. In other words, all attained light and knowledge in the studies of the mind itself, and of all related subjects of knowledge—as employed by the most perfect instrumentalities of science-construction—will be the constituents of the theory. As psychological science is ever advancing, never in fact more rapidly than at present, it is plain that psychological theorizing must ever be advancing, and the best and fullest psychological theory of to-day cannot be expected to hold its rank in the developments and growths of to-morrow. With all this we must suppose a limitation to this psychological theorizing which shall hold good for all practical uses. A psychological theory may, supposably at least, to-day, in the present advanced stage of the science, so far embrace the great determining features of the science of mind as to forbid the expectation of any considerable improvement for a long time to come—possibly for all time. The day may not be distant when the science of the mind, having its great boundary-lines fixed and its significant divisions for the uses of the science itself established, the progress of the science may be confined to the perfecting of the details and the determining of the relations between the parts themselves of the science and between it as a whole and other co-ordinate sciences.

The particulars embraced in the theory will be: the specific end proposed in the construction of the science; the subject-matter of the science as to its essential character and its co-ordinations; its sources and channels of light and evidence; its method of procedure under the proposed specific end; its tests and validations; its relations to co-ordinated sciences.

I. The End in Psychological Science.

It is obvious that there may be manifold ends of which any one may legitimately be pursued in the construction of a science of mind. The particular end chosen must of course govern throughout, determining more or less the selection, the arrangement, and the use of the materials, and thus shaping and characterizing the construction. One of these ends manifestly may be simply science itself—knowledge for its own sake. Other more generic ends supposable are those of practical ability or artistic skill. More subordinate ends might be the science of some particular department of mental study, as, for example, of theology or ethics;

or some special use in the ordering of conduct or practice, as in teaching or in medicine, or in artistic interpretation and creation. The present discussion will confine itself to that specific theory or survey of the work in constructing the science which regards it as proceeding throughout under the guidance and control of the first-named of these ends—viz.: to give the fullest and most perfect knowledge of the mind for the sake of that knowledge itself. This kind of theory keeps in view science or knowledge and its interests alone as governing. It will be characterized as employing the proper methods of proper knowledge, observing the principles of thought, and employing the processes of thought as scientifically established, in all its work.

II. *The Subject-Matter of Psychological Science.*

A theory of psychological science, availing itself, as it should, of all the light and knowledge that human thought has already attained, must assume something as known in regard to the nature and general characteristics of that of which it treats; it must answer to itself, more or less definitely, the question, What is the human spirit, or soul, or mind? The construction of the science can hardly move a step until this question is answered; and the entire development of the science must proceed under the sway of this initial and dominant thought. It is by no means to be required that universal assent should have been reached. There is no one, even of the most advanced sciences, which can show an unqualified agreement in the minds of all men as to the precise nature of its subject-matter. Nor is it indeed requisite, in order to the general validity of the science, that all the questions that it is possible to raise as to the nature of its subject-matter should have been resolved. Very possibly the solutions might not materially change the character of the developed science. But on psychological doctrine can reasonably expect general acceptance, or can promise to itself to be of much service in any way which does not assure itself to some extent of the nature of that of which it treats. A science of the mind must recognize the mind, either as a reality or as merely a phantasm; as substance or as only a mode; as a distinct entity, or only as an indistinguishable part of a universal whole; and as a spiritual or a material entity. Professor Bowne's theory distinctly adopts the former of these

several alternative views. "We have a logical right," he says, "to assume the reality of the mind." And in the same chapter, on "The Subject of the Mental Life," he effectively meets and confutes the claims of that materialistic speculation which "rejects the reality of the mental subject." "In spontaneous thought and consciousness the mental subject is given as active and abiding."

Psychological theory is justified in assuming still further, as settled beyond any formidable controversy in regard to essential attributes of the mind, that its real and abiding activity is diversely functional. Of well-nigh universal acceptance is the doctrine that the mental life manifests itself in the threefold ways or modes of feeling, knowing, and willing, just as the bodily life manifests itself in the several ways of respiration, nutrition, and locomotion. The questioning here will only take some such specific forms as these: Are these three functional forms of mental activity the comprehensive and complementary forms? Do they constitute the most important order of specific functional activities if some other order be conceivable? What is the exact organic relationship between these specific functions respectively with one another and the mind itself? It is within the bounds of reason to affirm, leaving minor questionings, that the threefold functional activity of the human mind in knowing, feeling, willing, is so fundamental and so conditional to any worthy science of mind, and at the same time so generally accepted, that any deserving psychological theory should distinctly and formally make it a very corner-stone of its scientific system. Introspection observes this threefold diversity; the actions of men reveal it; language recognizes it, universal experience affirms it. It is safer also to affirm that every act and affection of the human mind is reducible to one or the other, or to a combination of these functional manifestations. Unlike, perhaps, the alleged threefoldness of bodily functions, the threefold form of specific mental activity can, at the present stage of the science, be postulated without fear of any reasonable opposition. Mr. Bowne's "Introduction" is far from putting forth in form this demand; it recognizes the truth here and there in a passing way, and perhaps in more decisive implication in its method, particularly by devoting separate chapters to the Thought-Factor, the Feelings, and the Will, but it gives no

intimation of his making it fundamental and determinative in scientific construction. But the considerations that enforce this radical treatment of the minor threefold functional activity in a science of mind are overpowering. As intimated, the universal consciousness of man has recognized it, and expressed itself in language, art, social life, everywhere. Mental science in its earliest days recognized it, both subjectively as by Aristotle, who enumerates expressly the æsthetic, noetic, imaginative, and the orectic, as the four forms of mental activity, easily reducible to the three we have named, and also objectively, in its enunciation of the true, the beautiful, and the good, as demonstrably the three comprehensive objects respectively of a corresponding functional mental activity. And down through its progress the science has moved on toward a more distinct recognition of the truth and a more complete harmonizing with it and reduction under it of specific phenomena which were at first seemingly in some aspects irreconcilable with it.

There are, however, certain mental phenomena which, it must be allowed, psychological science has for the most part hitherto found it difficult to bring under this enumeration of specific mental functions. They are what have been vaguely denominated the representative states of mind as distinguished from the so-called presentative acts and affections. These representative states are particularly exemplified in memory and imagination, with their diverse modifications in the mental life. For the most part these phenomena have been treated as belonging to the cognitive class. They have been also presented as distinct and unrelated phenomena. Psychologists have, indeed, been greatly puzzled where to place them and how to treat them. In fact, as Mr. Bowne remarks, "there is no consistent terminology" accepted by them, showing that the whole matter still lies to their vision in the deep darkness. That the mind is retentive of the acts and affections which it experiences is the fundamental fact, and this fact probably all will admit. Memory, as retentive, is accordingly nothing else than the abiding mind itself, as it has come to be by virtue of its original nature and the modifications of this nature in its history and growth. The mind lives on, holds on, and all its past abides in it—all its affections, all its specific activities. Its life goes on thus shaped, putting forth fresh activities or receiving

fresh impressions from within and from without. It is this form of the mind, thus determined by its past, as it presents itself at this present moment as the dividing point in its onward life, in its specific determinations, that constitutes the object of what is regarded in an act of proper memory. So we have the fact that memory, as retentive, is simply mind as retentive. This is the accepted basic fact. But all modifications of the mental life are included—states of feeling and of willing, as of knowing. This basic retentive memory embraces all. Now, with the more or less distinct recognition of this fundamental truth of memory, psychologists lay hold on different features or modifications in their explanations, and easily glide into conflictive opinions. This retentive memory, as object, thus is taken up and presented to consciousness, and this conscious act, this consciousness of the actual present mental condition, determined, of course, necessarily by its past, is accepted as making up the whole of memory. The retentiveness of mind is thus thrown into the background, while consciousness being regarded as a knowing power or state, memory comes to be subordinated to the cognitive function. The evil resulting from this way of sinking out of view this most significant fact of mind—its retention of all its experience—is incalculable. With this great basic truth before us, that the entire mental life, as the outgrowth and body of all its past, ever lies before the eye of consciousness as a familiar landscape before the outer bodily eye, psychological science easily disposes of those vexatious questions about “latent modifications of consciousness,” “subconscious states,” “the association of ideas,” “mental reproduction.” The whole field of the mind’s history, with its infinitude of particular objects, is before the eye of consciousness, and there exists among their manifold and ever-varying degrees of contiguity and consequent suggestiveness; but the eye itself, although subject to the conditions of the finite and the dependent, is, after all, the supreme determining factor as to what objects shall engage its vision. The great governing principles of mental reproduction are chiefly to be sought in the active life of the mind, only in a very subordinate degree in the objects of mental activity. The treatment of the memory, also, as a special subordinate cognitive function in this way, is vague and defective. Other experiences than those of proper knowledge are shut out from the scope of memory; and

the memory itself is left unrelated to consciousness, as also to the mental life generally. In truth, the field of memory can not be regarded otherwise than as identical with the field of consciousness—the term *memory* only more explicitly suggesting the relation to the past as outcome and product.

Neither is the imagination to be regarded as a specific function of the intelligence. The science has hardly yet accepted in its fulness the doctrine, which bears the unmistakable signs and promise of coming prevalence, that the imagination is the active as the sensibility is the passive side of what has been styled the mental function of Form, co-ordinate with the other two functions of the mental life—the Intelligence and the Will. The mind certainly interacts with other realities, and can also make itself in any specific act an effective object to itself—can, in a true sense, interact with itself. That characteristic of the mind which qualifies it for this interaction, that element of its nature, through which it imparts and receives, moves and is moved, can not be regarded as a subordinate function. It must be accepted as one of these great functions of the mental life. The sensibility conceived as passive or capacity answers exactly to the imagination conceived as active or faculty—*forma formata* to *forma formans*. Accordingly, in mental apprehension we apprehend not the essence of the object, not the brass or the silver of the ring, to use the fine illustration of Aristotle, but only the form, the image, engraven on the ring.

Still further, any worthy theory of psychological science must of necessity recognize, beside those more essential elements of the mental life which is the subject-matter of the science, the determining relations of the mind to other realities. The human mind, as one and individual, exists and lives in correlation with other realities, interacting, as we have seen, with them. It is thus a part of the universe of reality. The scientific exposition of it must, therefore, proceed under the full control of those great laws of thought which respect the relations of a part as part, both to the whole of which it is a part, and also to the other parts, for these laws prescribe the fundamental conditions of all true knowledge of things. The necessity of this defining process in the science cannot, for want of space, be illustrated here further than as it respects the relation of the mind to exterior realities interacting with it through the bodily sense. We are prompted to remark

in passing, however, that the interaction, immediate and direct, between the human mind and other minds, between it and the divine mind, is a subject which is pressing itself with ever-increasing urgency on the consideration of psychological science. Sensation is accepted as the border-land in most of the interaction of the mind with outer things, and the difficulty arises as to the exact location and direction of the dividing-line, on the one side of which is the reality of the mind itself, and on the other side of which are the outer things with which it interacts. A recent speculation with considerable pretension has taken to itself the denomination of a "Physiological Psychology." It starts with the generally accepted teaching that the mental life begins with sensation, and proceeds to expound the phenomena of its subsequent development and experience in the terms of physiology. A psychology, so far as may be determined from a physiological point of view, may be a most valuable and trustworthy department of human knowledge, for all things and all sciences alike are co-ordinated and reciprocally determine one another. A psychology that is itself wholly determined by physiological laws is quite another thing. To identify the psychical with the physical—*ψυχή* with *φύσις*—the soul with nervous organism—is the legitimate tendency, if not the designed intent, of this kind of speculation. Psychological theory must take sides here. The soul is spiritual or it is material, until the uses of language make the terms matter and spirit identical; a materialistic psychology is a contradiction in terms, and science cannot build itself on a fundamental contradiction. The only alternative would be to reconstruct language, and, consequently, to reconstruct human consciousness. Psychology is not and, until language and consciousness change, cannot be mere physiology. The spirit of man is more than sensible organism. It has its life, for the present at least, conditioned more or less by the body as its medium of interaction with other realities, but it is itself separable from this conditioning body. In fact, the scientist who would trace all mental experience to cells and fibres finds himself obliged to restrict his explication of mental phenomena to those which are recognized as taking place in the brain or nervous organism as the medium of interaction between the mind and outer things. He can find for all those acts and affections of the human soul, which are confined

to itself and are not in interaction with outer things, no terms other than those which pure spiritualistic science has framed, and precisely because he cannot trace these experiences into the nervous organism. In truth, the body is most correctly viewed as simple medium of communication between the mind and outer realities, for the mind's communion with itself, the brain has no fitness or function. The mind knows that it has thoughts and aspirations which lie outside of all nervous affection, however true it is that the bodily life is for the present at least bound up with that of the soul in general sympathy, and that many specific phenomena of the mind lie in the realm of determining interaction between mind and body. Mr. Bowne's "Introduction" is most commendably emphatic in separating psychological science from all physiological speculation. "Our complete ignorance of what takes place in the nerves is no psychological loss. For practical purposes, we should be no wiser if we had the profoundest insight into the action of the external stimulus; and psychologically, also, we should be no better off if we knew all about the form of the nervous action in any special experience and the place of its location." The boundary-line of psychology lies in the mind side of the interaction between body and mind. The science lies wholly on that side. It has nothing to do with extra-mental facts and conditions in themselves, but only as they may serve to identify and define the mental affection or the mental energy, or perhaps illustrate their nature by general analysis. The bodily life has its own phenomena and its own laws; the mental life has its also; to bring them together into the same science is confusing, misleading, pernicious to each science.

Psychological theory, in fine, is warranted in the present stage of knowledge to define its subject-matter as that real and, consequently, active nature the essence of which is *intelligence*, as endowed with a self-directive trend, which appears in a complexity of instincts, propensities, desires, and is under the general governance of the *will*, and as interacting with other realities, as also with itself in imparting and receiving impression, putting itself forth, in the former case, actively in the imagination, and yielding itself, in the latter case, receptively in the sensibility, these two constituting the two sides—active and passive—of the comprehensive *function of form*. The mental activity, accordingly, as tri-

functional, involves a corresponding threefoldness of object, the intelligence or inner essence interacting with the true, the will with the good—*summum bonum*—and the sensibility and imagination with the beautiful or the perfect in form.

III. *The Sources of Light in Psychological Science.*

Psychology, as has been shown, has to do with a real as its subject-matter, consequently with facts. But the real facts are known only as they are revealed. The inquiry for the sources of light in psychological science, accordingly, is simply the inquiry for the revelations of mind; where and how does the mind reveal or manifest itself, and where can we find these manifestations? The answer at once is: We find them, in part at least, in ourselves, in our own experience, in our own feelings and thoughts and determinations. And this we undoubtedly say is the primal, chief, perhaps, conditioning source of light in the study of mind. But there are other minds besides our own, and these manifest themselves so that they can be observed in the study of mind. There are, in fact, manifestations of mind everywhere in human life—individual and social. In language, conspicuously, the mind of man as a thought-function manifests itself as it determines and shapes out in the manifold forms of articulated sound the specific forms of its own living activity. Language is essentially but an aggregate of word-forms as the embodiments of thought-forms. In science generally, also, we have the manifestations of mind characteristically in its cognitive activity. In art, too, we have the manifestations of mind conspicuously through its function of form—the creative imagination addressing the æsthetic susceptibility or receptive sense. In morals and religion the mind reveals itself in the self-directive function acting on the instinctive trend of mental life—the orectic nature. In some the mental nature, or, as we should perhaps here style it, the rational nature, manifests itself everywhere in more or less specific forms throughout the personal and social life and history of man.

We possess in our day an immeasurable amount of evidence gathered from all those sources of light from which a psychological theory should take its start, availing itself of all these results of the labors of the greatest minds and the accumulations of the vastest thought devoted to any humane pursuit in the centuries of

the past. It is time, one would think, that psychological theory should set forth a clear and authoritative determination of the nature and scope and validity of perhaps each of their several sources of light to the science, but especially of that confessedly primal, chief, yes, conditional source or channel, as furnished us in introspection, recognized under the denomination of the consciousness. Yet just here we meet much diversity of view with much very inconclusive discussion. In popular discourse the use of the term *consciousness* is, for the most part, unambiguous, giving but small opening for mistake, except, perhaps, that the term is confusedly applied sometimes to mind as conscious subject, and sometimes to mind as object of which we are conscious. But in science the term, like other terms of the same order, has divers allowable uses, both simple and metaphorical, and we have in consequence a diversity of theories. Mr. Bowne has, with his characteristic dialectic skill, exposed much of the misconception that has corrupted the science of mind from this source; but he fails to give entire satisfaction. Indeed, after laborious effort he is at last constrained to make the humiliating confession that "consciousness can be neither defined nor deduced." The best he can do is to describe it in varying phrase as "the specific feature or condition of all mental states"; as "that element which constitutes them mental states"; "that element which makes an act of knowing knowing, an act of feeling feeling, and an act of willing willing"; "an implication of the other faculties"; "an essential property of mental processes." There is here, assuredly, little of definition and little of clear and profitable explication. The more prevalent definition of consciousness, "as the knowledge the soul has of its own acts and states," he rejects on the ground that "it limits consciousness to knowing." This, he says, is "an arbitrary limitation of consciousness to one phase of knowing." But, as he himself maintains that consciousness respects only mental states, his only objection falls away entirely before his better teaching. Since there are two "phases" of knowledge determined as to object—one in which the object is the *ego* itself, or its states and acts, the other that in which the object is the *non-ego*—consciousness, no one doubts, is but "one phase of knowing"—that phase which has mental facts as its object.

Consciousness is not, indeed, so far as a knowing faculty, a sepa-

rate faculty in addition to the other faculties of knowing, feeling, willing. Such a supposition is as absurd as needless. Nor is it, in scientific exactness, "a light," in which we see ourselves; nor yet "a condition" of mental life; nor a mere "implication" in this life; for all these utterances are meaningless but as confessions of ignorance. It is impossible to imagine anything essential in consciousness other than this simple introspection, internal perception, or, in a more precise nomenclature as used in English literature, intuition. Unless taken as a well-nigh insignificant truism, the formal statement seems strange and utterly inadmissible that "the general form under which consciousness exists is that of the antithesis of subject and object—that is, the object of which we are conscious must be distinguished from self as its subject, and objectified to itself either as its state or act or as a quality of external things." It is no part of consciousness to *distinguish* more than it is of simple perception. *Distinguishing* comes in after perception; it is a subsequent stage in the process of a full knowledge. Consciousness is simple apprehension of its object; the mind or self is the subject, and the mind or self in its acts or affections is the object. This object may have a manifoldness of content; consciousness takes it in as one undivided concrete. Distinguishing and judging come in only after this conscious apprehension. The several elements which make up this concrete content in an object of consciousness—in any mental affection, for instance—are, of course, apprehended in the apprehension of the whole affection. The distinguishing process may select and bring out one or another of these constituent elements, and then this element, as thus distinguished, comes more fully into the view of consciousness. The self as the subject of the affection may be distinguished, in reflective analysis of the concentered affection, from the object affecting it in the interaction, and then we have the state of self-consciousness; in the stricter sense, of consciousness of self. Or some attribute of the object, engaging the mind's activity, may be distinguished after the first apprehension of the affection, and of this, as separate from the self, we may then be distinctly conscious.

But, it is allowable to remark here, we need to avoid the monstrous error of Hamilton in holding that we are conscious of the external object itself, understood as meaning that when I see an

inkstand before me, I am conscious of the inkstand. Consciousness is restricted to that phase of knowledge which concerns itself with the mind's own states and acts. On the other hand, however, we must not deny that consciousness reaches to something beyond the mind itself. There is in sensation—as, for example, in the sight of the inkstand—an interaction between some external reality and the mind. This external reality and the mind, of course, meet; both are alike present in the sensation. But not as Hamilton holds, not necessarily is the inkstand itself bodily present in the interaction; but an energy, issuing, it may be, from the inkstand, to which the mind traces back the affection of the sense as to its source—an energy external to the mind. Of this external energy—this outer reality—thus affecting the sense we are unquestionably conscious. It is true, therefore, that we are conscious of external reality, but only as it is presented in the simple form of a specific energy interacting with the mind. The interpretation of this interacting energy, leading to the source or object from which it directly or remotely proceeds, is subsequent to the affection of which we are conscious.

Self-experience is, in veriest truth, “the original and irreducible factor of self-consciousness,” in the sense that the self is conscious only of what itself experiences. It is not true in the sense that in all conscious experience there is an actual distinguishing of the self from the object with which it interacts; for, as Mr. Bowne affirms, “the small child, who has not the least idea of self and not-self as formal conceptions, has yet the liveliest experience of itself in its feelings of pain and pleasure.” It knows it feels, is conscious that it feels, while yet it may never have recognized itself as subject distinct from the feeling as object. This conceptual process is of a later stage.

A peremptory necessity is laid upon psychological theory to declare and establish an exact and definite notion of consciousness. It is the accepted chief and primal source of all its knowledge of the mind; it is the one sole original witness—the only one that knows from “personal knowledge,” from immediate observation. If its character as a witness be not understood, if this one original witness come whence no one knows and goes no one knows whither, its testimony is as the empty wind; and the science that founds upon it as its chief support is unsubstantial and worthless. Psy-

chological science is not reduced to this miserable plight of having no voucher but a mysterious stranger and no treasures but the bills of credit from an unknown drawer. Most truly, says Mr. Bowne: "All our knowledge of mind must come back to consciousness"; "psychology is finally based on introspection." Moreover, "the proper facts of consciousness admit of no scepticism." This is just because all men know and accept the testimony of consciousness as a known and trusted witness. But only a knower can be a witness; consciousness is thus a knower, and no one questions this. A part, at least, of its office-work is to testify what it knows. If a knower, consciousness constitutes, so far at least, a part of the knowing functional activity of the human mind; it is then a cognitive function, a knowing power; and there is but one cognitive, knowing function in mind, as there can be in its essence but one knowledge. It is as preposterous to suppose a plurality of cognitive powers as a plurality of knowledges distinguished in their essence. Knowledge may be modified in respect to object: it may be external or sensible, or it may be inward—introspection. As part of an organic whole, the cognitive or knowing power in man, moreover, is modified by its union in life or outworking more or less with the other organic functions—as when in union with will it becomes attention, or with feeling it becomes feeling consciousness, or conscious sense. But consciousness is in essence only a knower. It is mysticism and illusion to imagine any other element in it. No observation certainly ever detected any such element, and therefore it cannot be accepted in any form or shape in a science which is professedly a science of observed facts. Consciousness is introspection, internal perception, intuition. This view seems to be incontrovertible, and it is a view which imparts to psychological science simplicity, consistency, clearness, validity, and possesses this high voucher for its correctness.

The conclusion is that psychological theory can, and therefore should, claim as settled the following particulars respecting consciousness:

Consciousness is a cognitive function, its special sphere is the mind's own acts, affections, and states, and is, accordingly, precisely co-ordinated with external perception; it gives apprehensive or perceptive, and therefore only incomplete, knowledge, not the

mature knowledge of complete thought which emerges only in the judgment; it varies in vigor, and lacks even the omniscience which takes with its distinct vision all the minutest points of mental experience; it is fallible, as is human nature generally, but is yet the least fallible and by far the most trustworthy of all the sources of knowledge for man. Self-consciousness, in the stricter sense, as consciousness of self, is attained only as the result of a discrimination between the self and its own act or affection. It is consciousness of self as a factor or element essential in all mental experience, and consequently ever discoverable there in thorough analysis.

IV. *The Method in Psychological Science.*

A theory of psychological construction must of course determine its method. If the end in the construction be science or knowledge for its own sake, and if the subject-matter be accepted to be the facts of mind, the controlling method is at once determined; it must be characteristically the method of simple observation. It starts from fact as observed in its accepted light, proceeds by the accumulation and arrangement of fact, and leaves as its completed work its subject-matter, the human mind, unfolded both in its essential and its relative attributes, a comprehensive whole of all observed facts set forth in progressive logical co-ordination both of its intrinsic constituents and also of its extrinsic relationships to other realities. It is proper just here to call attention to the last-named requisite in a scientific construction of psychological science. The human mind is recognized as essentially a trifunctional activity. The three mental functions—knowing, feeling, willing—constitute the great substantial departments of the science. Hitherto it has been thought that the full treatment of these specific functional activities, especially if they are presented in their organic combinations one with another, exhausts the demands of the science. It has escaped recognition that an organic whole is more than the sum of the organic parts, however much may be allowed for the modification of these particular functions by the incidental conjunction of two or more in a single experience. A psychological construction, to be logically complete, must exhibit the soul as one organic whole. This is more than the mere aggregation of its particular members; the physiology

of the mind as one living organism is more than the conjoined physiologies of the several functional parts.

The method indicated—the method of observation, where the end or object is science or truth for its own sake—may properly be denominated the *method of realism*. It received its earliest and most characteristic elucidation and exemplification in Aristotle. With him the essence—*τὸ ὄν*—commanded the view in psychological study; and the science has chiefly grown as it has adopted this method. The distinction, however, which he made between the essence—*οὐσία*—of objective reality and the essence of subjective thought has unfortunately been overlooked by succeeding psychologists, to the most serious detriment of the science. Thought and objective reality being confounded, both have lost greatly in their proper significance and worth in the study. German speculation has gone so far as, in the person of one of its recent leading thinkers, cited as authority largely in Great Britain and in this country, formally and expressly in logical teaching to deny the necessity of any positive element in thought, the mere juxtaposition of two concepts sufficing to constitute a perfect thought or knowledge. Hamilton himself, in the same way, failing to note this radical distinction, was borne along, as by a logical necessity, to his monstrous doctrine of “the unconditioned.” It might indeed be shown that not only the agnosticism or nescience of the present day, but also the doubt, the shaky uncertainty, even the strange yet ready acceptance by some of contradictories as each equally true, which are glaring characteristics of modern science everywhere, in physics and metaphysics, can be largely accounted for on the ground of this confusion of the being in thought and the being in objective reality. The evil has been aggravated and extended by another closely connected error springing from a misconception, or rather utter perversion, of Aristotelian teaching, that the category or generic attribute is the primal source, the logical and chronological principle, of human thought—a most groundless and preposterous assumption, and irreconcilably opposed to the method of observation which in the case of the finite human mind begins with the single and the simple. It was this perversion of the Aristotelian doctrine and practice that exalted the deductive method to a supreme and well-nigh sole governance in thought. Let science ever venerate the name

of Hamilton for his service in exposing the weaknesses of this gigantic system of *barbarism* in its mere formal working; its spirit unhappily still lives, vitiating, more or less, scientific thought.

This method of realism, it will be borne in mind, admits of three entirely distinct movements of thought, each governed by its own laws, and each giving perfectly legitimate results, and each equally requisite for the perfecting of the science. Any one of these subordinate methods may be relatively more or less prominent, and the general method be accordingly so far modified. These subordinate methods are (1) the method of deduction, recognized from the time of Aristotle, and the one logical method prevalent till the time of Bacon; (2) the method of generalization, or the movement of thought from part to whole, the method particularly recommended by Bacon in his "*Novum Organum*"; and (3) the method of induction, or the movement of thought from part to part, with which the Baconian method has often been confounded, and which, although hardly recognized as yet in logical systems, is the crowning method in recent science. Psychological theory cannot be esteemed to be complete, or to have adequately comprehended its work in the construction of the science, without a full, practical recognition of each of these subordinate processes of thought, at least implicitly if not in formal direction and rule. The construction of the science will be pretty sure to stumble and stray unless each movement is well in hand and ready for use at every step of progress. Pre-eminently, however, psychological science, as a science of fact, must begin with the single and the simple, with the past, and accordingly must proceed either by the Baconian method, from part to whole on logical generalization, or by the more recently prevalent method of co-ordination or logical induction. The deductive movement can be admitted only as the general has been attained, from previous particular observation by legitimate process of thought. Some facts of mind, more or less generic, may, of course, properly be assumed as already settled by the observed experiences of the race. But even such assumption must squarely rest on the primal observation.

Psychological method, further, may be more or less modified by the way in which it approaches its subject-matter, and the idiosyncrasies or condition of the individual investigator may de-

termine this way of approach. The human mind may be approached in study thus in a threefold different way, and be viewed predominantly as an essence or a form, or a telic or orectic activity. The Aristotelian, as intimated, looked more exclusively at the essence. The liability in the use of this method is to a cold and stiff abstractedness, lacking life and interest. The Platonist regarded more the form—*τὸ εἶδος*—with him the corresponding subjective state being the *idea*. His, characteristically, is the method of idealism. Its end is the noble, the beautiful, the perfect in form—a worthy method, a fascinating method, an ennobling method. Its completed work should, however, be in loving accord with that of realism. Its liability is to empty phenomenalism, idle sentimentality. Then there is the modification of method which may be styled the method of practical wisdom. It contemplates the spirit of such predominantly as a self-regulated activity subject to growth, with a native set or trend toward a perfect manliness. Its goal is the supreme good of man as consisting in the full development and exact co-ordination of all the capabilities of his nature. It is characteristically the Hebrew and the Christian method. Its workings and its attainments must be, if legitimate, in perfect harmony with those of the other methods indicated; for the true, the beautiful, and the good dwell together in harmonious conjunction and sympathy in all real being, just as the knowing, the feeling, and the purposive functions congruously unite in the functional life of the soul.

Mr. Bowne's "Introduction" does not in form set forth or discuss the matter of method in psychological science. He declares at the start that "psychology deals with mental facts and processes," and that "the method must be introspective." "Sensations constitute a first order of mental reaction against external action. These in turn become the ground of a second order of mental reaction," consisting "in a working over of the sensations into rational forms." "In this process appears a new factor, which we call the thought-factor." Thus far we recognize the method of observation as that which his theory would enforce if it had been led to consider the matter in a formal way. But this so-named thought-factor is the one science-builder. The full exposition of its working must accordingly bring to view the plan, materials, construction—the whole character of psychology as a science. His treat-

ment of the thought-process becomes thus both exposition and exemplification to a large extent of his psychological theory. If we mistake not, the possibility of any worthy science anywhere, certainly the validity of any particular science of the human mind, hinges upon the principles involved in this exposition. It demands a close and careful scrutiny.

Mr. Bowne winds up the introductory matter in his chapter on the "Thought-Factor" in these words: "We conclude, then, that the mental life reveals two entirely distinct processes: (1) the movements and affections of the sensibility, and (2) an activity upon them which results in the judgment, the establishment of relations, and thus in rational knowledge. This activity is essentially what we mean by the thought-process." We deem it very unfortunate that in expounding this second order of mental activity a phrase of such large indefinite comprehensiveness as "the establishment of relations" should have been introduced. Under its cover and sanction a skilful dialectician could weave out the most fantastic of fabrics. But, leaving this, we advert to the fact that in the exposition of this second order one sole element is recognized—"an activity," with its diversified functions. This "activity" is given as the single constituent of the thought-process, and in interpreting it we are not justified in putting into it any extraneous element. We have, then, in our study of the entire thought-process only the two elements—the *datum* from the sense and the thought-activity upon it. In truth, simple introspection apprehends nothing more than these two—an object from sense and the movement of thought upon it. A science of observation is thus precluded from admitting anything more. And in another connection we find it expressly affirmed: "Of course, relations could not be established if the things were not in themselves relatable." The relations, it would seem from this, must have their origin in the things, not in the thought, and must accordingly be presented to the thought through the sense. This would seem to be decisive of the whole question. But there is some reservation here, or a retraction; for the expression appears, "those general relations which thought finds or *establishes* among its objects," and those general relations alluded to which are of special importance to the science are precisely not those which "thought *finds*." These general relations, he says, are variously called "the cate-

gories of thought, norms of distinction and comparison, regulative ideas, etc." Of these he selects for notice (for he deems a complete system to be impossible) those which he styles "the leading relations under which knowledge is constituted." His conception of the nature of these relations thus seems to be that they underlie the constitution of knowledge. If so, they cannot be themselves knowledges. But what they are as to their proper nature is left in mystery. They are not facts, for then they should be attained by observation. They are not truths, for then they would be, when apprehended by the mind, knowledges. They are said to be relations, but between what things—facts, truths, or what—is not revealed. They seem to be the relations which the thought-factor finds, and which are to be taken as ultimates concerning which no more is to be asked, because lying back and beneath all knowledge. His enumeration of these leading relations embraces "likeness and unlikeness," "time and space," "number," "cause and substance."

It is very obvious that Mr. Bowne, in this exposition of the thought-process, is engrafting on the method of observation an entirely different movement. He assumes, on no warrant of observation or of deduction, certain "general relations" under which all knowledge is constituted. This method, which is not an infrequent characteristic of scientific speculation, we may denominate, for the sake of distinction, the *absolute a priori method*. There is another legitimated movement of thought which we will distinguish from this as the *relatively a priori method*; for thought itself has its own properties which must consequently characterize every thought-product; these are pre-eminently, if not exclusively, the "same things which the mind can know on its own account." These properties are learned only by observation of actual thinking, and are consequently in themselves *a posteriori*. But, as they are essential in all thinking, they condition and characterize all thought-products, and are to them relatively *a priori*. They are the proper categories of pure thought, being those generic attributes or predicates which, as essential in all thought—in pure thought—must belong to all products of thought. In this sense, as stated, they condition all actual thinking, inasmuch as without them thought would lack an essential quality—be, in fact, no thought at all. They are reducible, it is believed, to the three, as

at least the most fundamental and generic, viz.: those of Identity, Quantity, and Quality.¹

But, further, the object gives to the sense the other factor in the thought-process, has its essential attributes, also attained by observation, therefore really *a posteriori*, but relatively *a priori* to any thought of the object. Of these the two most fundamental and comprehensive are Reality and Activity. No object can be given to the sense to be apprehended by it except in its interaction with the mind. This involves the reality of the object, since that is the very meaning and sign of reality in an object that it impresses the sense. This again involves activity, the actual working on the sense.

Still further, the result of the thought-process—the object as thought—has its two fundamental categories—those of cause and substance. Since every object, by being thought, becomes object under attribution, observation teaches us that the essential attributes thus attached to an object in thought are the two of action and quality; and object-thought under the attribute of action is cause, and under that of simple quality is substance.

In Mr. Bowne's enumeration "Likeness" and "Number" are given as generic. They are given above as specific—one of "Identity," likeness being but partial identity, and the other of "Quantity," which is both numerical and spatial as well as intensive. He gives no hint of the genesis of these ideas further than this: that they are, as already indicated, antecedent to knowledge and absolutely *a priori* as principles by which knowledge is constituted. Those enumerated are to be received as fair specimens of those so-called categories or norms, or regulative ideas, of which no complete system is, in his opinion, possible, but which are to be accepted without question as the constitutive principles of all knowledge. He discusses at considerable length the nature and genesis of the ideas of Time and Space. They are affirmed, after the Kantian theory, to be *a priori* contributions of the mind. "Time is primarily the law or principle which compels the mind to connect its experiences and all conceptions of events in general under the form of antecedence and sequence. Secondly, time is the

¹ See the writer's treatment of the Categories in his "Mental Science" and "Science of Thought." Editions of 1886.

form of this synthesis." Similarly : " All perception of extension rests on a synthesis of parts." The method exemplified in this exposition is characteristically what is familiarly known as the absolute *a priori* method as distinguished from that which we have noted as the relatively *a priori* method. It assumes certain truths or principles as existing in the mind which are antecedent and conditional to all experience. Its soundness and value may be fairly weighed as it is exemplified by Mr. Bowne, who is as competent as any one, perhaps, to work the method to its best achievements. The objections may be summarily presented as follows :

1. We have nothing here but bare assumption without ground in fact or in legitimate deduction. Its only support is the claim that it accounts for the genesis of certain ideas in the only way possible to the human mind.

2. The theory seeks to solve one difficulty simply by bringing in another far more formidable. The genesis of these ideas is less mysterious than the genesis of the alleged law or principle in the thought-factor ; than its mode of existence before any exertion of the activity ; than its application to experience.

3. It makes the thought-factor a magazine of ideas—of ideas as diverse and indeterminate as the relations in the objects that can be presented to thought, of ideas already stored and held before any exertion of its activity. It puts the product-ideas before the producing, and converts, if we may use Aristotelian phraseology, a potency into an entelechy without becoming an energy.

4. It ranks and treats the ideas of time and space as categories of thought ; that is, as generic attributes of pure thought, which he erroneously conceives to be attainable by the human mind before experience of the particulars which compose the generic.

5. It grounds the necessity of the *a priori* method in a misconception of the nature of the ideas of time and space as they are generally held. The theory supposes these ideas to be intrinsic to the objects given in experience ; and, as an analysis of our sensations of objects does not find either time or space and a complete abstraction of all the attributes of the object as given to the sense leaves an utter blank or zero, it rejects the common view as untenable, and seeks rest in the *a priori* assumption as the only alternative. This is wholly a mistake. Time and space are not held in the common-sense view to be intrinsic to the objects given in

sensation. Time, thus, is not an intrinsic property of bird, nor yet of moving bird. Time is not in the bird; it is in time; its motion is in time. Time, accordingly, conceived as an attribute, as it may be legitimately, is not an intrinsic but an extrinsic attribute—an attribute of condition. Finite sense cannot take in any object entirely apart from its environment. It can apprehend but a part of the universe of object. It must apprehend its object as such part; and the sense of a part involves a sense of what is related to it as a containing whole, which, as whole, is to its part of indefinite extent. We cannot see a star without something of the sky in which it is set. Human sense, thus, from the necessities of its finite nature, apprehends an object only as it exists in relation—as in its setting, its environment. All motion is thus correctly apprehended as being in time as its setting or external condition.

6. The theory attributes to the thought-activity an utter impossibility in the alleged construction of the ideas of time and space—"all perception of extension rests upon a synthesis of parts." Sensations are momentary, instantaneous; apprehensive only of points. The thought-factor is assumed to be the only principle of conjunction for the human mind. These moments or instants of the sense are conjoined by this thought-factor, and as the result of this synthesis so we get our ideas of duration and extension—time and space. But this speculation overlooks the utter impossibility of constructing non-quantitative points into the extended and quantitative. If the instants and moments of sense are quantitative, then the element of extension, of duration, of space and time, of quantity, is already given in the sense, antecedent to thought; and the speculation fails because it is uncalled for. On the other hand, if these instants and moments are themselves mere points, then all such synthesis of them as makes them actual quantitative extension is entirely illegitimate. An infinity of mere points can never avail to an infinitesimal of an extended space or line.

7. The theory misses entirely the true genesis of these ideas of time and space. It is affirmed that "no inspection of consciousness will reveal to us the origin of this idea [of time], inasmuch as the idea is always there long before the reflective consciousness begins the inquiry. We can only study some of its logical conditions." But surely all this is as true of all our leading ideas. The objects which produce them are given to the sense when its

capacity to receive and retain is at its weakest, when the discriminative and properly thinking activity is also at its weakest, when, consequently, the idea is so dim and dull that a weak infantile consciousness is incompetent to grasp it. This faint idea, only by much repeated impression and repeated thought-action and but gradually and slowly, grows into that full distinctness which consciousness can apprehend. We have thus the idea of weight—of gravity growing up from imperceptible beginnings. Doubtless it was in the mind long before “the reflective consciousness could begin the inquiry” into its origin and genesis. Yet, probably, no one will deny that the genesis of this idea is within the grasp of proper introspection. One experience of the rise of this idea must be essentially the same in its constituent elements as any other—the last must be the exact counterpart of the first; a heavy body impresses the sense alike in every case; and from this sense-impression as the single source comes all the material for the thought-process. This process involves no *a priori* form or principle of gravity as already possessed by the thought-function which in its action it contributes, from itself and from its own stores, to the sensation. Just so with the genesis of the ideas of time and space. One instance of experiencing the rise of these ideas in the mind is essentially the same as every other, having the same elements. Any moving thing impressing the sense gives rise to the idea at the first and ever after. So, as a matter of fact which cannot in reason be controverted, we may and do witness with an attained maturity of mental life the rise of these ideas in all the fulness of their essential factors and conditions. The consciousness of the experience gives a simple unimpeachable testimony. I see a bird at rest on the tree before my window; my sense receives the impression, and the thought-process acts on the sense-impression. I have an idea of bird. Then the bird flits before my window. My sense receives now a new and a different impression. I have an idea of moving bird. The sense of motion is added to the former sense of bird, and the idea of bird changes to the idea of moving bird. But this idea of motion contains within itself divers elements discernible in easy analysis; and among these constituent elements is that of continuous duration.

The vicious character of this whole *aprioristic* method is signal-ly exemplified still further in Mr. Bowne’s exposition of the

ideas of "substance" and "cause." What is conceived to be the true exposition of the nature and genesis of these ideas has already been given. As pertaining not to the thing given as object to the sense, nor yet to the thought-activity directed upon the object as apprehended in the sense, but to the thought-thing as result of the interaction between these two factors, they are readily understood. A failure to view them in this natural way naturally leads to mistiness and confusion, which are worse for truth and science than positive error. Of course, in this confusion and darkness, difficulties present themselves to the investigating mind. And here as elsewhere the Gordian-knot solution seems to have been accepted as the readiest and easiest—viz., that the thought-factor should create these ideas like those of time and space; this method has in other lines been accepted as legitimate and valid; habit has facilitated the use of it. Yet how viciously it works here as everywhere may be shown, particularly in the theory given by Mr. Bowne of the genesis of the idea of reality in the mind. There is some cloudiness thrown over his exposition by his recognizing an ontological and a metaphysical reality as distinct from proper psychological reality. The distinction is beyond our comprehension as it is beyond our present field of inquiry. The question here is, How does the mind of man get its idea of a reality external to itself? Of course, it is implied that a true exposition will impart to that idea, as it exists in the mind, legitimacy and validity. If the idea comes lawfully into the mind, it is true and valid, and there is a real external world; it is not a figment of the mind; the outer world has attested itself in a way to command the mind's assent. Now, according to this *aprioristic* method, "this idea can get into the experience only as the mind brings it in." Substance, by which "is meant reality in reference to its attributes," is regarded "as primarily a mental principle, and secondarily as an ontological reality." "We have the idea of causation," and "by cause is meant reality in reference to its activities." "This principle is no datum of experience, but a mental contribution." "It cannot be abstracted from experience, for the reason that it cannot be found in experience until the mind puts it there." All that there is of reality in the outer world for us, for our minds and souls, is thus made to be the mere fabrication of our own thinking. Surely it would seem as if this denial of reality as an

attribute pertaining to the outer world in itself, irrespectively of our thinking, must, if anything, "lead to nihilism and solipsism." Yet the facts which reveal beyond all doubt the actual genesis of this idea are patent facts; they are admitted facts. And, as was noticed in Kant's search for the idea of time in the experience, the explanation why "the idea cannot be found in experience" is simply that the vision is not turned to where it actually is. "All perception," it is affirmed in truth, "rests upon an interaction between the soul and the world of things." "To be perceived, a thing must act upon us; and to be perceived as this or that, it must act upon us in a manner corresponding thereto." Here, then, if we "construe the facts as they are given us," are "things" interacting with our minds, determining in our minds so that they are differently affected by this and by that. We accordingly have things, actions, mental affections. But, succeeding these mental affections, thus immediately resulting from the interaction, there are certain mental activities which are determined to be of this or that character, according to the character of the interaction and the affection. This part of the experience Mr. Bowne seems to exclude from his view. There is the activity of the thing, and that is followed at once by an activity of the mind. But nothing is recognized as intermediate; there is no proper effect produced in the mind by the thing from which effect the perception comes; the thing acts; the mind acts; nothing connects them. It is, however, admitted that the action of the thing is the condition of the minds reacting. But what meaning is there in this, unless the action of the thing produces a feeling in the mind, and unless it is this—the feeling—the action as felt—that is, a state in the mind itself—which is the object of the perception? So it is admitted that the mind has sensations, and they are the condition of all perception. Further than this, a thing manifests its own inherent reality as a thing by acting upon our minds, and the mind is conscious of this action upon it from an external object. But the vision of the *a priori* theorist is turned away from the interaction itself, the actual meeting of the two interacting factors, and consequently from the conscious sense, which, it may be remarked, sometimes abides without any perception immediately following from all this consciousness of external energy in actual operation on and in the sense. It takes no note of this. The method seems

to be color-blind; it does not discern what is obvious to sound vision.

The old Kantian speculation is summarily and characteristically given by Mr. Bowne as it is adopted by him: "Our objectified representations constitute for us the external world. This does not forbid that the world may be as real as common sense assumes; it only points out that to perceive the outer world we must think it or construct it in thought. The mind can never grasp the object other than through the conception, and the object exists for the mind only through the conception." The natural interpretation of this language must take it to teach simple nihilism. We take the ideas as representations of our own minds—objectify them—make them objects to our own mental view, and these constitute all there is of an external world; the external world is nothing, so far as we know, in itself; it is only our own ideal fabric; there is no real world for us; all that is a real nothing; this is the natural common-sense interpretation of the teaching. Consciousness here goes for nothing; for, if we are conscious of anything, it is that, when we are violently struck, some real thing outside of us interacts with us. Consciousness being thus belied, all knowledge of the mind, all psychological science fails, and, of course, with it all science, and we have left us as our only portion pure nescience. Our perceptions do not condition and determine our thought, our knowledge, but our thought-constructions determine them. Perception, indeed, is made to be only a "rationalizing process," or application of certain assumed judgment-relations, called "the categories." "The mind can never grasp the object other than through the conception." The conception, accordingly, must exist before the object is apprehended, and determine its existence for us and fix its nature; and so we find reiterated the teaching that the external object has no existence and no character of its own. Moreover, this all-determining "conception"—this antecedent to all knowledge—is, as presented to us, entirely sourceless and characterless. It is, in fact, absolutely incogitable, as it makes a product its own producer. A thought, as every principle which must be a form of knowledge, and every generic attribute which must be a constituent element in a knowledge, is made to be its own originator, for, we are taught, an object cannot be grasped except through the conception

already existing in the mind. It reverses and so belies the universally recognized process of knowing. A man hitherto blind, for instance, for the first time sees the sun; it is bright to him. The theory interprets the experience thus: The sun is presented to his sense; he has already in his mind, inner, inherited, transmitted, acquired in some unknown way, the conception of "brightness," and so he comes to know that the sun is bright. In this way the teaching denies to the human mind all power to know things as they are, and makes all human knowledge uncertain by making it to depend for all that is intrinsic and essential in the objects of knowledge as arbitrary, baseless, characterless conceptions. The teaching, of course, if as erroneous as it would seem to common sense and all reason, will reveal inconsistencies or contradictions here and there. Particularly we may notice here that it admits that the "raw material" which the thought-process works up is given by the sensibility. This raw material must be real—that is, if anything is real. If it be allowed to be real, then, inasmuch as it exists before the thought-process begins, and is not, therefore, created or made real by thought, the conclusion would seem to be inevitable that there is reality external to thought and independent of it. So the theory stumbles fatally over its own teachings.

The *a priori* method, thus shown to be untrustworthy as it is exemplified in a vital doctrine concerning true knowledge, although applied by eminent ability, may be reasonably expected to reveal fatal weaknesses in whatever application. It professes to found knowledge on an ultimate basis; it aims to effect its object by the simple expedient of assuming a principle or law or generic conception antecedent to all mental activity. The illusiveness of the process is shown at once in the fact that this fundamental conception, assumed to have a pre-existence in the mind, must be ever the product of the mind itself, for no other origin can in reason be assigned to it. It is originated for a special application, probably in all unconsciousness, out of a general unscientific survey of the subject-matter, and constructed, of course, so as supposably to embrace all the particulars. The true process of knowledge from its very nature prescribes the reverse of this—that it must begin with the object of the knowledge as given and as observed, and is effected first by observing or apprehending this object as having

some attribute or character, and then by identifying the object and attribute as one. This is the one essential characteristic relation in thought or knowledge—that which makes a knowledge to be a knowledge. To think, to know, psychologically, to judge, is essentially to attribute, and all attribution is simply identification of an object with some or other of its attributes. The judgment is, indeed, essentially thus a relating activity. It is illegitimate to make it the factor of any and all relations. It is more grossly illegitimate to make it the factor in any case of the attribute as one of the constituents in this relation. The judgment never creates the content of the attribute in a knowledge. That it can attain only as it is given in the presentation of the object to the judging activity. To what preposterous length the theory that the attribute in a judgment must be already in the mind before the object is presented to the sense logically leads is shown in the very reasoning of Mr. Bowne. "The universal form of knowledge," he says, truly, "is the judgment." "But judgments are impossible without the ideas united in them. I cannot say this is red or green without having some idea of red or green." "The universal antedates reflective thought, and is a necessity of all thinking." "Whenever reflection begins we find ourselves already in possession of a mental world." "The world of things exists for us only as we construct it in thought by bringing into sensation the categories of the intellect. Besides these, we find a world of ideas which lay no claim to substantive existence. These mental products are all universals." "Red" and "green" thus are universals already in the mind before any red thing or green thing has ever been presented to the sense; they emerge from the mind's treasure-house when the external object is presented.

Assuredly this is not the method of certain knowledge. Hardly can it be allowed as "*belle et probabiliter opinari*." Very far is it from the Baconian method of observation and realism, the goal of which is *certo et ostensive scire*. In truth, to rest any intellectual structure, any system of doctrine, any form of knowledge whatever respecting any real thing, on assumption, is to build on sand—an utterly unstable and untrustworthy foundation. The first grand aphorism of the "*Novum Organum*"—that human knowledge, respecting mind and outer things, is conditioned by observation—is a first principle for all stable science. The assumption of

universals not only violates this law of knowledge, but itself involves what is utterly incogitable—viz., that an attribute can exist apart from the subject to which it belongs, except, of course, in the abstractions of thought. Those universals which most commonly now creep into speculation with most vicious effects, such as “infinite,” “absolute,” “perfect,” although in themselves of negative import, easily take on a positive form, and then as easily admit the idea of the real. Thus, by a subtle paralogism, out of an utterly groundless assumption is built up a system of doctrine respecting God, the universe, nature, the mind, pompous and plausible, yet only pretentious and illusive. The vicious logical principle corrupts and spoils the entire body of doctrine into which it is admitted.

V. The Validation of Psychological Science.

The hopeful and successful builder of science must feel assured that his work is right, and therefore must give valid results. He must have a just confidence that the science, after having been built up of the fitting materials in the method of tested skill, must be veritable and, therefore, enduring science. If his facts are the facts of mind, accurately and fully observed, and if they have been constructed by the known methods of the one science-builder—thought—his work must abide. He needs thus only to test his observations and his reflective thought-movements, his deductions, his generalizations, his inductions, confining himself to observed fact as his material, and ever beginning with that. Observation as a valid ground and condition of knowledge cannot be questioned. Human fallibility must, of course, ever be recognized, and proper provisions and allowances be made for this. But, after all, truth is attainable by the human mind, and it may be known to be truth by decisive tests. We do know some things, and we know that we know them; and this simply because this knowledge that we have has all the essential characters of a true knowledge. This is the one comprehensive and conclusive test. As I know an orange to be an orange because it has the essential properties of an orange, so I know that the knowledge I have is a true knowledge because it possesses the known properties of a knowledge. It has proceeded from an observed fact, and my mind, as capable of knowing the fact; has worked up the fact into a true knowledge.

These are manifold specific tests of valid observation. They need not be enumerated here. And the testing of the thought-movement can be satisfactorily accomplished in the light of the established laws of thought. The builder of science has accordingly the means of testing his work in his own hands, and may rest content with his work if he find it to have been founded on assumed observation of fact, and to have been carried forward by a legitimated skill. The pretended science that threatens an assault on a knowledge thus built up of assured observation and in sound logic will have committed suicide before it can deal its threatened blow.

It were hardly necessary to call particular attention to this validation of the science in psychological theory but for the fact that the attempt has been so often made to construct the science in open violation of a fundamental principle of scientific construction by founding it upon an alleged principle, not exclusively on observed fact. This method of procedure, characterized as the *a priori* method, has been already sufficiently considered in its vitiating effect on psychological science. It is necessary here only to reiterate the affirmation, that any alleged science founding itself on any assumption whatever, by whatever name it may be designated, as first truth, necessary principle, or otherwise, builds itself on sand, and has no real stability. It is mortally vulnerable for this one of divers reasons, that he who controverts it has equal right to assume, and there is no superior authority to adjudicate with which party lies the better claim. A particular science may, indeed, found on what has already been established; it is not required to relay foundations already laid. But primarily and originally all science for man must repose on fact attained by legitimate observation. Thought must accept this observation in implicit faith. Scientific observation has, indeed, its regulative laws, and these must be found in the testing to have been obediently followed. Thought itself has, too, its regulative laws, which must, in securing a validated knowledge, be found, as well, to have been obediently followed. Thought itself must have been observed, its nature ascertained. The essential characteristics observed in this ascertained nature of thought must, of course, appear in every instance of legitimate thought. Here, in these essential characters, we alight upon principles which must precede and condition

all thought, and which will be found as attributes of every thought-object. These principles of thought, thus attained by observation, are properly denominated *a posteriori* in respect to their own origin, but, being prerequisite in all actual thinking, are *a priori* in reference to all the results of such thinking. These fundamental principles are those already named as the categories of pure thought—Identity, Quantity, Quality. These principles may rightfully be taken as the corner-stones of sound knowledge. They are not, however, assumptions; and the allowed free use of them by no means justifies the use of other assumptions that have no ascertainable basis in the nature of thought or in legitimate observation.

Science, thus knowing what scientific observation is and what true thought is, knows what true knowledge when attained is. The decisive validation of science is thus in its own power. There is none that can rise up to dispute its sovereign rule.

VI. *Relationships of Psychological Science.*

Psychology bears diverse and complicated relationships in its properly scientific character. It is a part of a larger whole of science; and it has to do with a part of the general subject-matter of science. These relationships are organic as parts of the one great body of knowledge which has the universe of being—being of thought as well as being of reality—for its subject-matter. In these co-ordinations reciprocity of vital force must exist, and science-construction must recognize the fact and hold itself free to impart and to receive light and help as their organic connections may allow. Psychology is thus to be co-ordinated with Metaphysical Science, Fundamental Philosophy, Ontology—by whatever name it may be known. It bears here a double and an opposed relationship, as both originative and subordinate, parental and filial. It is the subordinate as constituting only a part of universal science; it is yet the originative source and ground of logic as the science of thought which is the universal and only science-builder, for thinking is an essential function of mind which is the proper subject-matter of psychology. The nature of true thought and so the determination of all true knowledge thus are to be learned primitively and authoritatively from psychological science. Logic, or the science of thought, is thus its own mother; the mother and

offspring at once of psychology; and, moreover, the one mother of universal science.

It is inadmissible here, in the limited space allowed, to enter into a more detailed explication of the organic relationships subsisting between psychology and other branches of knowledge. It must suffice simply to indicate the fact of those divers relationships, that so the construction of the science proceed in full recognition of the various and complicated co-ordinations determining and shaping more or less the spirit and character, and the defining boundaries of the science. The successful builder of psychological science must be in intelligent sympathy and organic communication with all embodiments of truth and sound knowledge. More and more fully is the long-observed principle of co-ordination as governing alike throughout the universe of being and of thought coming into recognition and effective use—the principle that in every organic whole each part conditions and determines, more or less, every complementary part.